ABSTRACT

Character recognition has researched by any society, one of the application is handwriting recognition. With handwriting recognition, process to input data to the computer or database can be more fast and effective. But, the trouble is handwritten character written by everyone is unique in shape and size of characters. Another problem is there are some alphabet characters that have similar shape, such as "I" and "l". This gives its own problems in handwriting character recognition.

With that problems, in this final project was built a system that can recognize offline handwriting characters. Characters that will be recognized are alphabet characters, such as uppercase characters and lowercase characters. In this system will be carried out three phases, such as preprocessing, feature extraction using Modified Direction Feature which combines features of direction and information on the character, and classification using neural network Backpropagation that can solve problems in pattern recognition by minimizing the mistakes when training process. In this final project will be carried out testing and analysis of the parameters that affect the precision or accuracy of the system.

The pattern recognition system of alphabet character that is using Modified Direction Feature and neural network Backpropagation lead to conclution that those methods can be used to recognize handwriting alphabet characters. Accuracy of system influenced by the size of normalization, the number of transitions, the number of hidden layer neurons, learning rate, epoch, goal, and the number of hidden layers. The system has an accuracy training is 98,9011 % for uppercase character and 91,7582 % for lowercase character. Accuracy testing is 58,9744 % for uppercase character and 59,4017 % for lowercase character.

Keywords : character handwriting recognition, Modified Direction Feature, Backpropagation